

JAN 31 2008

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (original): A communications method for use in a communications system including a mobile node, a second node including a mobility agent module, and an application agent for performing application processing on packets originally directed to said mobile node, the method comprising:

- operating said mobility agent module in said second node to receive packets with a destination address corresponding to said mobile node;

- operating said mobility agent module to redirect at least some of the received packets with a destination address corresponding to said mobile node to said application agent instead of said mobile node;

- operating the application agent to process application data in the payload of multiple redirected packets, said processing resulting in at least one application event, said resulting application event being a function of the processing of the payload content of multiple redirected packets; and

- determining, as a function of said resulting application event and paging trigger event information whether said mobile node should be paged.

Claim 2 (currently amended): The method of claim 1, wherein said application agent performs said determining step, the method further comprising:

- operating said application agent to receive information indicating at least one paging trigger event, said information being received from one of i) said mobile node; ii) an access router which serves as said mobile

node's point of network attachment; and iii) a paging policy server included in said communications system; and wherein said at least one paging trigger event is an application processing result.

Claim 3 (original): The method of claim 2, wherein said application processing result is completion of a file download by a communications application, said downloaded file including multiple packets.

Claim 4 (original): The method of claim 3, further comprising:

- operating said mobile node to initiate said file download prior to said redirection of packets to said application agent;

- operating said application agent to initiate a page to said mobile node in response to determining as a function of said resulting application event that said mobile node should be paged; and

- operating said application agent to communicate at least a portion of said downloaded file to said mobile node.

Claim 5 (original): The method of claim 2, wherein said application processing result is completion of decoding of a download file including multiple encoded packets.

Claim 6 (original): The method of claim 2, wherein said application processing result is completion of a computation involving the processing of numbers included in the payload of multiple redirected packets.

Claim 7 (original): The method of claim 6, wherein said application agent includes a spreadsheet application for performing said computation.

Claim 8 (original): The communications method of claim 1, wherein determining whether said mobile node should be paged includes:

comparing said at least one resulting application event to stored application event information indicating at least one application result that is to trigger paging of said mobile node.

Claim 9 (original): The communications method of claim 8, further comprising:

in response to determining, said mobile node should be paged,

- i) initiating paging of said mobile node; and
- ii) transmitting a signal to halt the redirection of at least some packets with a destination address corresponding to said mobile node so that said packets are directed to said mobile node.

Claim 10 (currently amended): The method of claim 8, wherein said second node includes packet flow filtering information, said packet flow filtering information identifying at least a first type of packet and a second type of packet, the first and second types of packets being different, the method further comprising:

operating said mobility agent module in said second node to filter received packets with a destination address corresponding to said mobile node to distinguish between received packets of the first type and received packets of the second type, received packets of the first type corresponding to a first packet flow, received packets of

the second type corresponding to a second packet flow, said mobility agent module redirecting packets corresponding to the second packet flow to said application agent without redirecting said first packet flow.

Claim 11 (original): The method of claim 10, further comprising:

comparing information in a packet of the first type to first paging event trigger information; and

paging said mobile node when information in said packet of the first type matches paging trigger information included in said first paging event trigger information.

Claim 12 (currently amended): The method of claim 10, further comprising:

operating said mobility agent module to receive said packet flow filtering information from the application agent, said application agent generating said packet flow filtering information from information received from one of said mobile node and an access node which serves as a point of network attachment for said mobile node.

Claim 13 (original): The method of claim 10,

wherein said application agent is an application proxy which operates as a proxy for a corresponding application executed on said mobile node; and

wherein packets of the first type correspond to a first application being executed by said mobile node while packets of the second type correspond to a second application which is being executed by said application agent.

Claim 14 (currently amended): The method of claim 10, further comprising:

operating the mobility agent module to direct packets of the first type having an address corresponding to said mobile node to said mobile node while directing packets of the second type to said application agent.

Claim 15 (currently amended): The method of claim 10, further comprising the step of:

operating said mobility agent module to initiate paging of said mobile node when said mobile node is in a sleep state and a packet of the first type having an address corresponding to said mobile node is received by said mobility agent module.

Claim 16 (currently amended): The method of claim 10, wherein said mobility agent module pages said mobile node in response to a paging message received from said application agent.

Claim 17 (original): The method of claim 1, wherein the second node is one of a Mobile IP Home Agent node, a Mobile IP Regional node, a Mobile IP Foreign Agent node, and a Mobile IP Attendant.

Claim 18 (currently amended): The method of claim 1, wherein the application agent is located in the second node with the mobility agent module.

Claim 19 (currently amended): The method of claim 1, wherein the communications system further comprising comprises a fourth node coupled to said second node, said fourth node including said application agent.

Claim 20 (currently amended): The method of claim 1, further comprising:

operating said application agent to transmit a first paging message to said mobility agent module when it is determined that said mobile node should be paged;

operating the mobility agent module to receive said first paging message; and

operating the second node to transmit, in response to said mobility agent module receiving said first paging message, a paging message to said mobile node.

Claim 21 (currently amended): The method of claim 1, further comprising:

operating the mobile node to send a routing message to the mobility agent module, said message including ~~said~~ at least some of said paging trigger event information.

Claim 22 (original): The communications method of claim 1, wherein the application agent is in one of the second node and a fourth node, the fourth node being coupled to said second node.

Claim 23 (original): A communications system comprising:

a mobile node including an application for processing packets directed to said mobile node;

an application agent including a mobile node proxy application and a set of application result processing trigger information;

a mobility agent module including means for receiving packets with a destination address corresponding to said mobile node and redirecting at least some of the received packets with a destination address corresponding to said mobile node to said application agent instead of said mobile node; and

said mobile node proxy application in said application agent processing data in the payload of multiple redirected

packets, said processing resulting in at least one application event; said application agent further including means for determining, as a function of said resulting application event and paging trigger event information whether said mobile node should be paged.

Claim 24 (currently amended): The communications system of claim 23, wherein said mobile node proxy application further includes:

means response to determining that said mobile node should be paged for initiating paging of said mobile node; and

means for transmitting a signal to halt the redirection of at least some packets with a destination address corresponding to said mobile node, after initiating paging of said mobile node, so that said packets are directed to said mobile node.

Claim 25 (original): A communications method for use in a communications system including a mobile node, a second node including a mobility agent module, and an application agent for performing application processing on packets originally directed to said mobile node, the method comprising:

operating said mobility agent module in said second node to receive packets with a destination address corresponding to said mobile node;

operating said mobility agent module to redirect at least some of the received packets with a destination address corresponding to said mobile node to said application agent instead of said mobile node;

operating the application agent to process application data in the payload of at least one of said redirected

application packets, said processing resulting in at least one application event; and

determining, as a function of said application event resulting from processing of said application data, and at least some paging trigger event information provided by said mobile node, whether said mobile node should be paged.

Claim 26 (original): The communications method of claim 25, wherein determining whether said mobile node should be paged includes:

comparing said at least one resulting application event to stored application event information indicating at least one application result that is to trigger paging of said mobile node.

Claim 27 (original): The communications method of claim 26, further comprising:

in response to determining, said mobile node should be paged,

- i) initiating paging of said mobile node; and
- ii) transmitting a signal to halt the redirection of at least some packets with a destination address corresponding to said mobile node so that said packets are directed to said mobile node.

Claim 28 (currently amended): A network node for use in a communications system which includes a mobile node, the network node comprising:

an application module for performing application processing on packets originally directed to said mobile node;

a mobility agent module for receiving packets with a destination address corresponding to said mobile node and for redirecting at least some of the received packets with

a destination address corresponding to said mobile node to said application ~~agent~~ module instead of said mobile node;

wherein said application module processes application data in the payload of multiple redirected packets, said processing resulting in at least one application event, said resulting application event being a function of the processing of the payload content of multiple redirected packets; and

a paging determination module for determining, as a function of said resulting application event and paging trigger event information whether said mobile node should be paged.

Claim 29 (previously presented): The network node of claim 28, further comprising:

means for receiving information indicating at least one paging trigger event, said information being received from one of i) said mobile node; an access router which serves as said mobile node's point of network attachment; and iii) a paging policy server included in said communications system;

Claim 30 (previously presented) The network node of claim 28, wherein said at least one paging trigger event is an application processing result.

Claim 31 (currently amended): A network node for use in a communications system which includes a mobile node, the network node comprising:

application processing means for performing application processing on packets originally directed to said mobile node;

mobility agent means for receiving packets with a destination address corresponding to said mobile node and

for redirecting at least some of the received packets with a destination address corresponding to said mobile node to said application ~~agent~~ processing means instead of said mobile node;

wherein said application processing means processes application data in the payload of multiple redirected packets, said processing resulting in at least one application event, said resulting application event being a function of the processing of the payload content of multiple redirected packets; and

paging determination means for determining, as a function of said resulting application event and paging trigger event information whether said mobile node should be paged.

Claim 32 (previously presented): The network node of claim 31, further comprising:

means for receiving information indicating at least one paging trigger event, said information being received from one of i) said mobile node; an access router which serves as said mobile node's point of network attachment; and iii) a paging policy server included in said communications system.

Claim 33 (previously presented): The network node of claim 31, wherein said at least one paging trigger event is an application processing result.

Claim 34 (previously presented): A network node for use in a communications network, said communications network also including a mobile node, said network node comprising:

a processor configured to:
receive packets with a destination address
corresponding to said mobile node;

redirect at least some of the received packets with a destination address corresponding to said mobile node to an application agent controlled by said processor instead of to said mobile node;

control the application agent to process application data in the payload of multiple redirected packets, said processing resulting in at least one application event, said resulting application event being a function of the processing of the payload content of multiple redirected packets; and

determine, as a function of said resulting application event and paging trigger event information whether said mobile node should be paged.

Claim 35 (previously presented): The network node of claim 34, wherein said at least one paging trigger event is an application processing result.

Claim 36 (currently amended): A computer readable medium embodying machine executable instructions for controlling a network node in a communications network to implement a communications method, the communications network also including a mobile node, the communications method comprising:

receiving packets with a destination address corresponding to said mobile node;

redirecting at least some of the received packets with a destination address corresponding to said mobile node to an application agent controlled by ~~said~~ a processor instead of to said mobile node;

processing application data in the payload of multiple redirected packets, said processing resulting in at least one application event, said resulting application event

being a function of the processing of the payload content of multiple redirected packets; and

determining, as a function of said resulting application event and paging trigger event information whether said mobile node should be paged.

Claim 37 (currently amended): The machine computer readable medium of claim 36, wherein said at least one paging trigger event is an application processing result.